Guide's Guide
Common Plants and Animals

Endangered Species

What does it mean to be endangered? By definition, it means to be in danger of extinction. As biologist Michael Soule said, *The end of life is one thing, the end of birth is something else*. Extinction is an essential, and natural, part of the adaptation and evolution of life and its environment. Based on information gained from the fossil record, it is estimated that 99.9 percent of all species that have existed on Earth are extinct.

A threatened species is in danger of becoming endangered.

Scientists have identified 1.4 million different species. As we explore the tropical rainforests and our backyards, this number may reach as high as twenty to thirty million! Due to habitat loss, however, we are losing at least one species a day, many before we have had a chance to learn how they interact with the rest of the world. The effect of species extinction is difficult to assess. The loss of one species of plant will have a direct effect on at least thirty additional species. Most people know the importance of plants in oxygen production, but what of the northeastern beach tiger beetle? Though a beetle may seem insignificant to us personally, its role in the food web cannot be overlooked.

Chief Seattle, in 1852, reportedly said ... *All things are connected like the blood which unites us all. Man did not weave the web of life, he is merely a strand in it. Whatever he does to the web, he does to himself.* We are now trying to figure out what we have done and what we can do. Since extinction is a natural process, what do we save? Right now, extinction rates are rapidly increasing due to human competition for resources. Taking the role of "Stewards of the Earth," the Endangered Species Act set up guidelines for the protection of species in danger of extinction. As studies are completed by scientists, recovery plans are outlined for each listed species. These include such ideas as captive breeding programs, reintroduction of populations into historic sites, and the securing of critical habitat which may help the species survive. Since the establishment of the Act, 428 species have been listed, with another 4,000 identified as candidates. Of those listed, 257 have approved recovery plans. Within the Seashore, the Piping Plover recovery plan has been implemented, and a plan for the NE beach tiger beetle is being developed.

Currently, within the Cape Cod National Seashore, thirteen vertebrates and one invertebrate subspecies are identified as endangered or threatened. They include:

Birds

FE*	Peregrine Falcon	*(Falco peregrinus)*
FE	Bald Eagle	*(Haliaeetus leucocephalus)*
FE	Roseate Tern	*(Sterna dougallii)*
FE	Eskimo Curlew	*(Numenius borealis)*
FT*	Piping Plover	*(Charadrius melodus)*

Mammals

FE	Right Whale	*(Balaena glacialis)*
FE	Sei Whale	*(Balaenoptera borealis)*
FE	Finback whale	*(Balaenoptera physalis)*
FE	Humpback Whale	*(Megaptera novaeangliae)*

Reptiles

FE	Atlantic Hawksbill	*(Eretmochelys imbricata)*
FE	Atlantic Ridley	*(Lepidochelys kempi)*
FE	Atlantic Leatherback	*(Dermochelys coriacea)*

Insects

FT	NE Beach Tiger Beetle	*(Cicindela dorsalis)*

* FE - Federal Endangered species
  FT - Federal Threatened species

Some states have enacted their own Endangered Species Legislation to help protect existing populations of species that occur within their boundaries. Within the Seashore, there are an additional fourteen threatened and endangered vertebrates, two invertebrates, and twelve plant species that are recognized by Massachusetts.

VERTEBRATES

Birds

SE*	Northern Harrier	*(Circus cyaneus)*
SE	Henslow's Sparrow	*(Ammodramus henslowh)*
SE	Golden-winged Warbler	*(Vermivora chrysoptera)*
SE	Leach's Storm Petrel	*(oceanodroma leucorhoa)*
SE	Loggerhead Shrike	*(Lanius ludovicianus)*
SE	Upland Sandpiper	*(Bartramia longicauda)*
SE	Sedge Wren	*(Cistothorus platensis)*
SE	Short-eared Owl	*(Asio flammeus)*
ST*	Least Bittern	*(Ixobrychus exilis)*
ST	Northern Parula	*(Parula americana)*
ST	Pied-billed Grebe	*(Podilymbus podiceps)*
ST	King Rail	*(Rallus elegans)*

Reptiles

ST	Diamondbacked Terrapin	*(Malaclemys terrapin)*

Amphibians

ST	Spade Foot Toad	*(Scaphioppus holbrooki)*

INVERTEBRATES

Insects

ST	Barren bluet Damselfly	*(Enallagma recurvatum)*
ST	Decodon stem borer Moth	*(Papaipema sulphurata)*

PLANTS

SE	Oysterleaf	*(Mertensia maritima)*
SE	Walter's Sedge	*(Carex striata)*
SE	Ovate Spike-rush	*(Eleocharis obtusa v. obtusa)*
SE	Sea Lyme-grass	*(Elymus mollis)*
SE	Northern Alkali-grass	*(Puccinellia langeana v. alaskana)*
SE	Weak Rush	*(Juncus debilis)*
SE	Fibrous Bladderwort	*(Utricularia fibrosa)*
ST	Golden Club	*(Orontium aquaticum)*
ST	Few-flowered Sedge	*(Carex oligosperma)*
ST	Purple Needlegrass	*(Aristida purpurascens)*
ST	Swamp Oats	*(Sphenopholis pensylvanica)*
ST	Adder's-tongue fern	*(Ophioglossum vulgatum v. pseudopodum)*

* SE-Listed by the Commonwealth of Massachusetts
* ST - State Threatened as endangered species within the state

Common Plants and Animals

Common Cape Cod Trees

The forested areas of Outer Cape Cod combine a mixture of changing and relatively stable scenes. Oak, cedar, and locust trees commonly line the roadways of the Eastham area, while pitch pines dominate the horizon in South Wellfleet. Maples, mixed with other hardwoods, offer picturesque interruptions of reds and yellows in the fall along river drainages in the Truro area. Stunted pitch pines again claim the scene in the Highlands area, while the Beech Forest area along Race Point Road provides yet an additional community not previously encountered. In time, these scenes will change further.

The forest of Outer Cape Cod today is different from what it once was. When European explorers viewed Cape Cod prior to the arrival of the Pilgrims, they noted great expanses of wooded land, which in spots, stretched to the very "brink of the sea." This forest consisted of oak, pine, juniper and sassafras, with prominent assemblies of beech and other hardwoods.

When the Pilgrims took up permanent residence on Outer Cape Cod in the 1640's, they cleared the forests for fields, and to harvest timber. Their efficiency proved detrimental, as the landscape failed to recover from deforestation, and plunged into a hundred years of barren, impoverished plains. When Thoreau visited the Outer Cape in the 1850s, he remarked that there was often not even a single tree to break the horizon for as far as the eye could see.

The recovery of the Outer Cape's forest began with the planting of trees in the mid 1800s to stabilize shifting sand and old farmland. After World War II and the Cape's shift to a residential and tourist-based economy, the Outer Cape's forest reemerged in earnest, but with a mixture of species that will be in transition for years to come. In time, the abundance of red cedars, which thrive in abandoned fields, will give way to oaks and other hardwoods.

Following is a description of some of the more common trees that are readily visible on the Outer Cape:

Pitch Pine

Pitch Pine is an abundant evergreen which thrives in the poor but well drained glacial soils of Cape Cod. Existing here for several thousand years in varying densities, Pitch Pine's success can be partially attributed to its resiliency. It is capable of surviving the cold of northern latitudes and the warmth of postglacial summers.

In colonial days, Pitch Pine was used, as its name implies, as a source for rendering pitch into turpentine spirits or other resinous products. Because of its frequently gnarled posture and sappy wood, it was used only sparingly for lumber. Pitch Pine was especial-ly popular as a fuel for boiling seawater into salt before the advent of solar evaporation "salt works" on the Cape in the late 18th Century.

Exposure of pines to the effects of salt spray can retard needle growth and cause discoloration. Severe insect infestations (i.e., pine tip borer) adversely affect pine trees and can cause noticeable changes in their appearance, even eventual death. This is a natural cyclic condition.

Bear Oak, Scrub Oak

Bear Oak, or Scrub Oak, is a member of the Black Oak group. This stunted, shrubby tree can survive in the harsh, windblown, back-dune environment of the Outer Cape, and in upland areas with poorer soils. Because of its small size and often twisted and gnarled posture, Bear Oaks were not sought after by early Cape Codders for lumber.
White Oak

After being almost entirely eliminated from the Outer Cape between the 1700s and the mid-1800s, oaks have made a strong comeback. In colonial days the wood from this straight, smooth-grained hardwood was harvested for making furniture, flooring, tools, boats, posts and beams for houses, and many other items.

Black Oak

Black Oaks were utilized in much the same way as White Oaks. Early settlers used them for constructing post and beam houses, furniture, boats, and other items.

Black Cherry

Black Cherry trees are found in wooded areas in association with more dominant species, as well as within transitional areas, such as alongside trails in heavily forested areas. Black Cherry is distinguished by its narrow two- to six-inch long leaf, which is l to 1 1/2 inches wide and trimmed with fine teeth along its margins. These trees can grow to heights of fifty feet or more. Outside of protected areas, Black Cherry is still an important commercial species.

American Beech

This attractive tree was once abundant and occasionally dominant in certain areas during pre-colonial days, but due to deforestation and other human activities, its frequency declined. On Cape Cod, the smooth gray-barked American Beech can now be found only in limited numbers. One location where pockets of this species still survive in quantity is within the moist, well developed hollows (between dunes) of the Province Lands. Another prevalent location on the Outer Cape is in Wellfleet, along the upper portions of the Herring River.

Atlantic White Cedar

Atlantic White Cedar inhabits several swampy kettle holes on the Cape. This formerly abundant evergreen migrated north, after the Ice Age gave way to warmer temperatures. Several thousand years ago, when the climate of Cape Cod was as warm as that of present day Virginia, Atlantic White Cedar thrived. But as the climate cooled, this tree's range receded southward. Today, Cape Cod is within the northern portion of its range (Maine is the northern limit).

Atlantic White Cedar has long been used by humans. Native Americans reputedly used hollowed out White Cedars as ocean-going canoes. Colonists took advantage of the White Cedar's resistance to weathering and decay, and its ease in splitting to make shingles used extensively for roofs and sidings on Cape Cod houses. In the 19th century, White Cedar gained nationwide popularity in the pencil industry. At home, Cape Codders used White Cedar in constructing solar evaporation salt works-especially for making wooden pipes that were used to carry sea water to and from the various vats.

Red Maple

Red Maples often compete for habitat with Atlantic White Cedars, occasionally fringing the deeper water in which the cedars thrive. Maples wait for debris and sediment to reduce the water level so that their seedlings may invade. They also colonize abandoned cranberry bogs. In colonial times maples were sought for their fine-grained, hard, durable wood, which was especially well suited for furniture making. During the fall, Red Maples make their presence known along the low-lying drainages of the Outer Cape, such as the Pamet River Valley, and amid various kettle depressions in Eastham and Wellfleet, with brilliant displays of colorful foliage.

Eastern Red Cedar

These common sun-loving trees are known for their rapid invasion of old fields. Red Cedars often inhabit areas where some form of past human activity has occurred, such as farming, mowing, or raising livestock. Birds help to spread the Red Cedar's seeds, which pass undamaged through their digestive tracts. The Eastern Red Cedar is actual-ly a juniper and only a distant relative to the true Cedars. However, its wood has qualities and properties similar to that of other types of "cedars" and has been used since early colonial days for making shingles and other such products. The richly aromatic foliage, berries (cones), wood and often conical "Christmas Tree" shape are distinctive features of this prominent evergreen.

Black Locust

The Black Locust, a native of more southern regions of the United States, was introduced to Cape Cod to help restore worn out soil, to provide ground cover and to develop windbreaks. Black Locust is a legume, and like all others in the pea family, has a nitrogen-fixing bacteria associated with its root nodules which aids in enriching poor soils. This feature, plus the fact that locust wood makes excellent fence rails and can be burned green as firewood, made it an attractive tree for replanting the barren landscape of the Outer Cape in the early part of this century.

Common Plants and Animals

Birding

Cape Cod is a nationally recognized destination for migratory birds. The National Seashore's bird inventory lists 368 species that have been sighted within the Seashore, many of them on an annual basis. Spring migration can run hot or cold, depending on the weather patterns for that given year, but fall is the time when the greatest variety and numbers of birds can be found beginning with the adult shorebirds that arrive on the first of July and continuing through the fall with juvenile shorebirds in August, warblers in September, and hawks and waterfowl in October and November. Hurricanes and northeast storms may also occasionally blow huge numbers of seabirds into Cape Cod Bay, where the visitor lucky enough to be on the bayside beaches during the nastiest of weather may see thousands of jaegers, phalaropes or alcids.

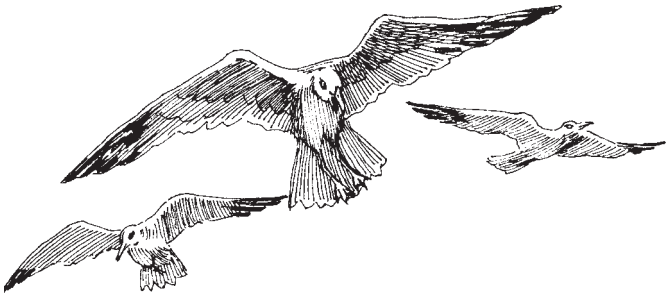
Nesting birds in the summer include least sandpiper, common, roseate and Arctic terns, and a variety of upland birds in the pitch pine woodlands. There is an active management program for the piping plover. Whale watches out of Provincetown frequently encounter pelagic birds such as storm-petrels, shearwaters and gannets in addition to humpback and finback whales.

Both the Cape Cod and Stellwagen Bank Christmas Bird Counts include portions of the Seashore, and a breeding bird survey is conducted annually in cooperation with the U.S. Fish & Wildlife Service.

A checklist of Cape Cod birds is published by the Cape Cod Bird Club and is available for sale at Park Visitor Centers and area bookstores.

Both the Salt Pond Visitor Center in Eastham and Province Lands Visitor Center in Provincetown have some displays on Cape Cod birds. Additional exhibits may be seen at the Cape Cod Museum of Natural History in Brewster or the Massachusetts Audubon Society Wellfleet Bay Wildlife Sanctuary off Route 6 in South Wellfleet, and the Center for Coastal Studies, Provincetown.

Prime birding areas are: Beech Forest Trail (spring warblers); Fort Hill Overlook (marsh and upland species); outer beaches (terns and plovers, spring and summer); bayside areas for pelagic birds (after storms).



Common Plants and Animals

Common Birds of Cape Cod National Seashore

___ Common Loon
___ Double-crested Comorant
___ Mute Swan
___ Common Eider
___ White-Winged Scoter
___ Surf Scoter
___ Black Scoter
___ Common Merganser
___ Red-brested Merganser
___ Mallard Duck
___ Black Duck
___ American Widgeon
___ Canada Goose
___ Herring Gull
___ Great Black-backed Gull
___ Ring-billed Gull
___ Laughing Gull
___ Little Tern
___ Common Tern
___ Black Skimmer
___ Great Blue Heron
___ Green Heron
___ Snowy Egret
___ Great Egret
___ Glossy Ibis
___ American Oystercatcher
___ Black-bellied Plover
___ Ruddy Turnstone
___ Semipalmated Plover
___ Piping Plover
___ Short-billed Dowitcher

___ American Kestral
___ Great Horned Owl
___ Screech Owl
___ Mourning Dove
___ Rock Dove
___ Ruby-throated Hummingbird
___ Belted Kingfisher
___ Common Flicker
___ Downy Woodpecker
___ Hairy Woodpecker
___ Eastern Kingbird
___ Eastern Peewee
___ Horned Lark
___ Barn Swallow
___ Tree Swallow
___ Bank Swallow
___ Chimney Swift
___ American Crow
___ Blue Jay
___ Black-capped Chickadee
___ Tufted Titmouse
___ White-breasted Nuthatch
___ Red-breasted Nuthatch
___ Brown Creeper
___ Carolina Wren
___ Brown Thrasher
___ Gray Catbird
___ Northern Mockingbird
___ American Robin
___ Wood Thrush
___ Cedar Waxwing
___ Red-eyed Vireo
___ Red Knot
___ Whimbrel

___ Willet
___ Greater Yellowlegs
___ Lesser Yellowlegs
___ Sanderling
___ Dunlin
___ Spotted Sandpiper
___ Least Sandpiper
___ Semipalmated Sandpiper
___ Western Sandpiper
___ White-rumped Sandpiper
___ Common Bobwhite
___ Northern Harrier
___ Red-tailed Hawk
___ Osprey
___ Turkey Vulture
___ Pine Warbler
___ Prairie Warbler
___ Yellow Warbler
___ Common Yellowthroat
___ Red-winged Blackbird
___ Brown-headed Cowbird
___ Common Grackle
___ Starling
___ Northern Oriole
___ Northern Junco
___ Northern Cardinal
___ House Finch
___ American Goldfinch
___ Rufous-sided Towhee
___ Chipping Sparrow
___ White-throated Sparrow
___ Song Sparrow

Common Plants and Animals

Checklist of Mammals

Shrews and Moles

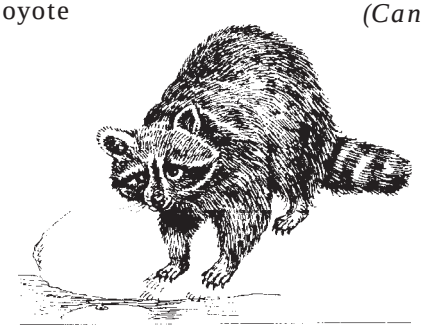
Masked Shrew	*(Sorex cinereus)*
Short-tailed Shrew	*(Blarina brevicauda)*
Eastern Mole	*(Scalopus aquaticus)*
Hairy-tailed Mole	*(Parascalops brewer)*
Star-nosed Mole	*(Condylura cristata)*

Bats

Little Brown Myotis	*(Myotis lucifugus)*
Keen Myotis	*(Myotis Keeni)*
Indiana Myotis	*(Myotis sodalis)*
Silver-haired Bat	*(Lasionycteris noctivagans)*
Eastern Pipistrel	*(Pipistrellus subflavus)*
Big Brown Bat	*(Eptesicus fuscus)*
Red Bat	*(Lasiurus borealis)*
Hoary Bat	*(Lasiurus cinereus)*

Carnivores

Raccoon	*(Procyon l otor)*
Short-tailed Weasel	*(Mustela erminea)*
Long-tailed Weasel	*(Mustela frenata)*
Mink	*(Mustela vison)*
River Otter	*(Lutra canadensis)*
Striped Skunk	*(Mephitis mephitis)*
Red Fox	*(Vulpes fulva)*
Coyote	*(Canus latrans)*



Sea Lions and Seals

Harbor Seal	*(Phoca vitulina)*

Rodents

Woodchuck	*(Marmota monax)*
Eastern Chipmunk	*(Tamias striatus)*
Eastern Gray Squirrel	*(Sciurus carolinensis)*
Red Squirrel	*(Tamiasciurus hudsonicus)*
Southern Flying Squirrel	*(Glaucomys volans)*
White-footed Mouse	*(Peromyscus leucopus)*
Southern Bog Lemming	*(Synaptomys cooperi)*
Meadow Vole	*(Microtus pennsylvanicus)*
Pine Vole	*(Pitymys pinetorum)*
Muskrat	*(Ondatra zibethica)*
Norway Rat	*(Rattus norvegicus)*
House Mouse	*(Mus musculus)*
Meadow Jumping Mouse	*(Zapus hudsonius)*

Hares and Rabbits

Snowshoe Hare	*(Lepus americanus)*
New England Cottontail	*(Sylvilagus transitionalis)*

Deer

White-tailed Deer	*(Odocoileus virginianus)*

Whales, Dolphins and Porpoises

Several species occur in offshore waters of the Atlantic Ocean and in Cape Cod Bay, and are occasionally grounded on beaches.

Taxonomy based upon:

A Field Guide to the Mammals by W. H. Burt and R. P. Grossenheider, Houghton Mifflin Co., Boston, 1964.

Common Plants and Animals

The Eastern Coyote in Massachusetts

The following question has become popular: “We understand that coyotes have been seen in the Cape Cod National Seashore area. When and how did they get here?”

There are coyotes in the Seashore area - not many at this point, but their population is growing. Coyotes came to Cape Cod in the late 1970s the same way most everyone else has across the Bourne and Sagamore bridges.

Although sometimes called “coydogs or brush wolves,” these animals are true coyotes. Today, they exist statewide from the Berkshires to Cape Cod. In Massachusetts, coyotes are about the size of a medium-sized German shepherd dog, but with longer, thicker fur. They have a long, bushy, black-tipped tail that is usually carried pointed down. Their snout is long and slender, and their ears are pointed and erect. The pelts range from grayish-black to the less common blonds, light tan, dark tan, or even all black.

Coyotes usually are shy and elusive animals. Male and female coyotes pair up, establish a territory, and breed in February or March; four to eight pups are born in April or May. Coyote activity is variable; they can be active night or day, and sightings at dawn or dusk are common. They remain active all year-round and do not hibernate. Coyotes often are seen individually, in pairs, or in small groups usually a family unit consists of an adult male and female with their current offspring. The area a coyote uses may vary from four to thirty square miles.

Coyotes have good senses of sight and smell and use these senses to find food. They are opportunistic feeders and will eat many types of foods. Because they are predators, their primary foods include small rodents, rabbits, deer, birds, snakes, frogs and insects. Coyotes will also eat fruits, berries, vegetables, garbage and pet food left outdoors. In some areas, they will prey upon unprotected pets, including house cats, and have been known to attack domestic dogs.

Coyotes are an important, renewable natural resource. In Massachusetts, they are classified as a furbearer species, for which an established hunting season and management program exists.

Source: Commonwealth of Massachusetts Department of Natural Resources

Whales of Cape Cod Waters

Provincetown was once a port to whaling vessels, with crews eager to harvest whales for the oil that came from their blubber and the corset stays that came from their baleen. Today, Provincetown is home port to boats of a different kind-still searching for whales, but now filled with people hoping to understand and protect the whales.

The fertile waters off Cape Cod are home to several different species of whales, many of which are seasonally resident here, using the area as a feeding ground and a safe place in which to raise their young. Provincetown is the closest port to Stellwagen Bank, an underwater deposit of sand and gravel located just a few miles north of Provincetown. The shallower waters of Stellwagen result in high levels of productivity, supporting huge quantities of plankton (tiny plants and animals, including algae, small crustaceans, and fish larvae); large numbers of fish; and the humpbacks, fin whales, and other marine animals that feed on those fish. *Stellwagen Bank has been designated a National Marine Sanctuary because of the valuable role it plays for the marine life in this area.*

Baleen Whales

Whales are divided into two groups, the toothed whales and the baleen whales. The **Minke Whale** is a typical baleen whale. Baleen whales are generally solitary animals. They use their baleen plates (called “whalebone” by early whalers) to filter small fish and plankton from the water.

Toothed Whales

The **Atlantic White-Sided Dolphin** is similar to many of the other dolphin species, all of which are toothed whales. These toothed whales are highly social animals, often traveling in large “pods” which may number as many as 400-500 animals. Toothed whales feed on fish and squid.

Some species of whales can be individually identified by differences in the natural markings found on their bodies. Thanks to the access provided by the Dolphin Fleet, scientists from the Center for Coastal Studies have been able to follow many of these whales throughout their lives. We know that many of these individuals return here every year to feed and raise their young, how often they bear calves, how long they take to reach sexual maturity information essential to protecting them.

Humpback

The **Humpback Whale** *(Megaptera novaeangliae)* spends its spring, summer and fall months in northern waters, where it feeds on the small schooling fish which occur here. Late in the year, humpbacks migrate to the waters of the West Indies where they mate andbear their calves. Humpbacks are easy to tell apart using natural field marks-the black and white pattern on their tail flukes. One famous female humpback is named Cat’s Paw for the white paw-like mark on her nearly all black tail. There are about 550 humpback whales in the Gulf of Maine, many of which frequent Cape Cod waters. The humpback is a large whale, often reaching lengths of 40-50 feet. It is distinguished by its long white flippers and the fact that it often raises its tail high into the air when it dives.

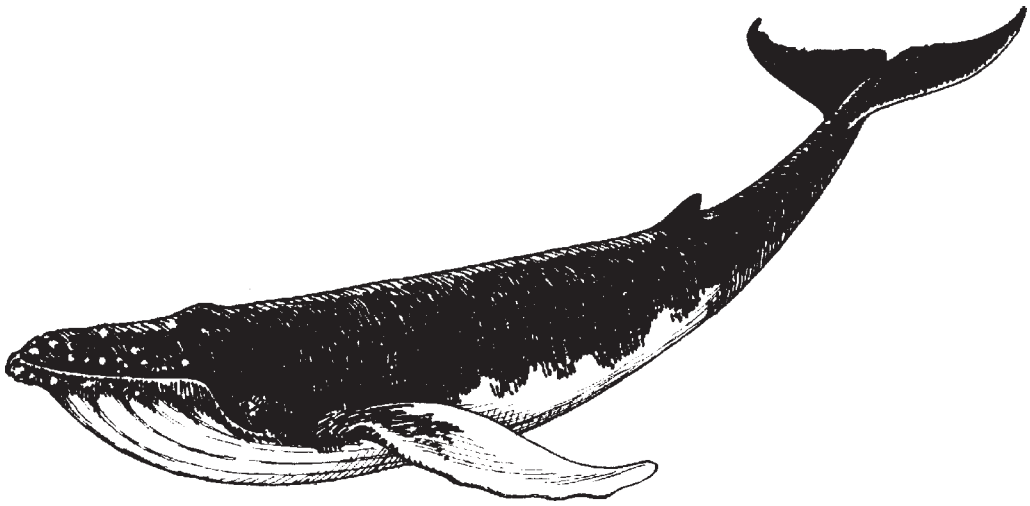
Fin Whale

The **Fin Whale**, or **Finback**, *(Balaenoptera physalus)* is somewhat larger than the humpback, reaching lengths of 50-75 feet. It is also a more streamlined animal, moving quickly through the water. Fin whales can be individually identified by using a combina-tion of body characteristics: dorsal fin shape, scars, and-the most telling characteristic but also the most difficult to photograph- the subtle shadings and swirls on the right side of the whale called the blaze and chevron. Fin whales are unique in that they are asymmetrically colored; the whale's lower right jaw is white and its lower left jaw is dark gray or black.

Right Whale

The **North Atlantic Right Whale** *(Eubalaena glacialis)* is the most endangered of all the world's great whales. Once found in Cape Cod Bay in huge numbers, there are fewer than 350 North Atlantic right whales remaining in the world today. The right whale's long baleen plates, covered in a thick mat of fine hairs, help this 45-50 foot animal to strain tiny plankton from the water for food. Right whales can be identified by the differ-ences in "callosity" patterns on their heads and lips; these callosities are actually bumps covered with tiny whale "lice." Right whales are found in the Massachusetts area in the late winter and early spring months. They use these waters as a feeding ground and nursery for mothers with young calves.

Source: Courtesy of the Dolphin Fleet and the Center for Coastal Studies



Common Plants and Animals

Stranded or Beached Marine Animals

Whales, dolphins and other marine animals have been recorded stranding on Cape Cod since it was first settled by Europeans in the 1600s. It seems to be a naturally caused phenomenon, possibly due to the Cape's geologic configuration. Some scientists speculate that it is the Cape's curving bayside shoreline that confuses whales and dolphins, which orient themselves by "echolocation" (determining the location of an object by emitting sound waves which bounce back to the whales as echoes). It is also evident that shallow, fast-emptying tidal creeks often trap unsuspecting marine animals during tide changes.

Other stranding causes are potentially related to ill-health of pod leaders, who instinc-tively seek shallows and unwittingly strand fellow pod members. Once in the shallows, marine mammals can experience stresses that can lead to life-threatening conditions. Overheating, drying out, and body weight stress on lungs and other vital organs can cause irreversible damage.

Sea turtles also strand on Cape Cod shores. Sometimes this is due to animals getting swept out of their normal range by ocean currents. Some of these species are threatened and endangered, and will be assisted by the Cape Cod Stranding Network.

Source: National Marine Fisheries

Common Plants and Animals

Checklist of Amphibians and Reptiles

AMPHIBIANS

Salamanders

1. Spotted Salamander *(Ambystoma maculatum).* North to Pamet River.
2. Red-Backed salamander (Woodland salamander, lead-backed salamander) *(Plethod-on cinereus).* Most abundant Cape Cod amphibian, found Capewide.
3. Four-toed salamander *(Hemidactylium scutatum).* Cedar swamps are an ideal habitat.

Frogs and Toads

l. Spadefoot toad *(Scaphiopus holbrooki).* A burrowing toad, rarely seen.
2. Fowler's toad (Bufo *fou·leri).* Widespread on the Cape.
3. Spring peeper *(Hylo crucifer).* Widespread.
4. Grey tree frog *(Hyla v[e]rsicolor).* Uncommon. Great salt tolerance.
5. Pickerel frog *(Rana palustris).* Locally abundant, north to Pamet River.
6. Green frog *(Rana clamitans).* Most common species.
7. Bullfrog *(Rana catesbiana).* Likely introduced to Wellfleet area from its upper Cape range.

REPTILES

Turtles

1. Snapping turtle *(Chelydra ser pentina).* Active predator, but an opportunist, too. Capewide.
2. Spotted turtle *(Clemmys guttata).* Requires a marsh habitat or pond. Omnivorous, but cranberries are a favored food.
3. Diamondback terrapin *(Malaclemys terrapin).* Wellfleet marshes and bays are its northern boundary.
4. Painted turtle *(Chrysemys picta).* Kettle ponds a favorite habitat. Capewide distribution.
5. Box turtle *(Terrapene carolina).* Original range unknown; population decimated by collectors.

Sea Turtles

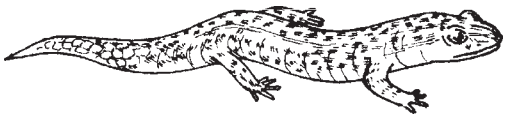
Migratory summer residents. All nest in southern waters.

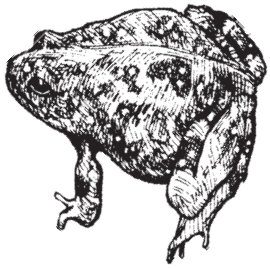
1. Green turtle *(Chelonia mydas). Of* turtle soup fame.
2. Loggerhead turtle *(Caretta caretta).* Carnivorous. Largest and most common species.
3. Ridley turtle *(Lepidochelys kempi).* Most belligerent of the local species.
4. Leatherback turtle *(Dermochelys coriacea).* Largest living reptile (by weight). Warm blooded; jellyfish diet.

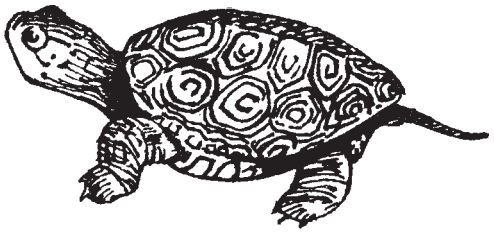
Snakes

1. Water snake *(Natrix sipedon).* Capewide northward to Pilgrim Heights. Not common.
2. Garter snake *(Thamnophis sirtalis).* Especially abundant in Province Lands.
3. Ribbon snake *(Thamnophis sauritus).* Capewide, but especially abundant in Province Lands. Boldly striped.
4. Ringneck snake *(Diadophis punctatus).* Diets on salamanders.
5. Hognose snake *(Heterodon platyrhinos).* Capewide distribution.
6. Black racer *(Coluber constrictor).* Common Capewide.

Status based on
Reptiles and Amphibians in Massachusetts
and *This Broken Archipelago (1976) by* James D. Lazell, Jr.







Common Plants and Animals

Red Tide

Red tide, though it has an ominous sounding name, really bears no resemblance to anything red in Cape waters. The algae which cause the phenomenon is known scientifically as *Gonyaulax tamarensis*. It is naturally occurring and not the result of pollution or tampering with nature by humans. Outbreaks of the red tide have been documented as early as Samuel Champlain's time, although modern-day research has focused attention on it more clearly. In tropical areas of the world, red tides do, in fact, color the water red.

This local species thrives in a very narrow temperature range, and will bloom only if salinity, nutrients, and sunlight conditions are correct. If conditions are perfect, the algae may change from a dormant state (called cysts) and bloom in a matter of several days. Areas such as Salt Pond appear to be ideal for the survival of these cysts, thus blooms appear to begin in these regions and spread by tidal action to other areas. Filter feeders, such as shellfish, consume the organism, breaking down the cells and releasing a toxic substance-and are themselves unaffected. However, warm-blooded animals which consume such shellfish can be affected by the toxins. This is termed Paralytic Shellfish Poisoning, and results in a disruption of breathing and other central nervous system functions. Other organisms such as lobsters, crabs, finfish and birds are unaffected.

Regular testing of shellfish beds safeguards the public throughout the year, and shellfish harvested from other areas or available through fish markets or restaurants can be considered safe.

Source: Eastham Natural Resources Department

Greenhead Fly Traps

What and Why are Those Boxes on the Marsh?

As you explore Cape Cod, you probably wonder why there are boxes of different colors in the marsh. They are not bird nests, hunting blinds or somebody's hideaway. They are greenhead fly traps. If you have visited the Cape during the summer, you probably already know what a greenhead fly is. It is one of the most unwelcome creatures on the marsh and beach, so far as personal comfort is concerned. There are lots of these biting insects around then. Sometimes when it is flat calm, there are so many on the beach, you either have to stay in the water or else go home. Its name fits the fly, since it has a green head.

The female fly lays its eggs on grass stems in midsummer. These females seek blood of warm blooded animals to develop their eggs. The eggs hatch into inch-long maggots, which winter in the mud at the base of the plants, feeding on insects, worms, snails and other greenhead larvae. Usually, the following summer they emerge as the dreaded fly. They in turn provide a bumper meal in late July for the swallows and other birds.

The boxes on the marsh are there to catch greenhead flies. Once inside, they can't find their way out again. These boxes help keep down the number of these biting insects without having to use chemicals. In fact, they catch so many flies that the boxes need to be cleaned out every couple of weeks. The people studying the greenhead fly use a measuring cup to scoop them out-one cup equals three hundred flies! In some areas, it is felt that 70% of the flies are caught.